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TRW Docket No. 35-0017

Please substitute the following for the paragraph that begins on page 37, line 10:

Q13 17) Simple deployment and installation;

Please substitute the following for the paragraph that begins on page 37, line 11:

Q14 18) An excellent approach to system autonomy (Autonomous Mode).

IN THE CLAIMS:

Please add new claims 25-38 as follows:

25. (New) A satellite data collection and distribution system, comprising:

at least one earth-orbiting satellite having at least one data collection instrument,  
a memory for storing collected data and a transmitter for broadcasting the collected  
data toward the earth on a substantially continuous basis;

a plurality of unmanned, receive-only receptor terminals positioned at selected  
locations on or near the earth's surface to receive data signals from the satellite;

a processing and control center for processing data collected by the satellite and  
for transmitting control signals to the satellite; and

Q15 a wideband network connecting the receptor terminals and the processing and  
control center, wherein each of the receptor terminals is located in close proximity to a  
point of access to the wideband network;

wherein the receptor terminals are positioned to provide near-global coverage of  
the earth, and data signals received at the receptor terminals are forwarded to the  
processing and control center over the wideband network with minimal delay and on a  
substantially continuous basis.

26. (New) A satellite data collection and distribution system as defined in claim  
25, wherein the satellite further comprises:

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means for storing a copy of a global coverage map maintained by the processing and control center, the coverage map indicating the positions of the receptor terminals; and

means for retransmitting data that could not be successfully transmitted because of a gap in global coverage, as determined from the coverage map.

27. (New) A satellite data collection and distribution system as defined in claim 26, wherein the means for retransmitting data comprises:

means for retrieving from memory the data to be retransmitted;

a multiplexer for coupling the retrieved data to the transmitter, interleaved with the collected data being broadcast on a substantially continuous basis; and

means for timing the retransmission of the retrieved data to ensure reception by at least one of the receptor terminals, based on the coverage map.

28. (New) A satellite data collection and distribution system as defined in claim 26, wherein the satellite further comprises:

means for retransmitting data on receipt of a command from the processing and control center, wherein data received at the processing and control center with detected errors can be retransmitted from the satellite.

29. (New) A satellite data collection and distribution system as defined in claim 25, wherein:

the processing and control center includes means for maintaining a global coverage map defining the coverage provided by the receptor terminals and means for maintaining a copy of the coverage map on the satellite;

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wherein the coverage map is automatically adjusted to accommodate both newly added and inoperative receptor terminals, and wherein the satellite uses the coverage map to anticipate coverage gaps and take appropriate action to retransmit data that would otherwise be lost.

30. (New) A satellite data collection and distribution system as defined in claim 29, wherein the at least one satellite is a plurality of similarly equipped satellites.

31. (New) A method for collecting and distributing terrestrial data, the method comprising the steps of:

collecting data from at least one sensor in at least one earth-orbiting satellite;

broadcasting the collected data on a substantially continuous basis;

simultaneously with the broadcasting step, storing the collected data in a memory on the satellite;

receiving the broadcast data in a succession of unmanned, receive-only receptors positioned at selected locations on or near the earth's surface;

forwarding the received data through a wideband network connecting the receptor terminals to a processing and control center, wherein each of the receptor terminals is located in close proximity to a point of access to the wideband network; and

processing the data in the processing and control center;

and wherein the receptor terminals are positioned to provide near-global coverage of the earth, and data signals received at the receptor terminals are forwarded to the processing and control center over the wideband network with minimal delay and on a substantially continuous basis.

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32. (New) A method as defined in claim 31, and further comprising:

storing on the satellite a copy of a global coverage map maintained by the processing and control center, the coverage map indicating the positions of the receptor terminals; and

retransmitting stored data that could not be successfully transmitted because of a gap in global coverage, as determined from the coverage map.

33. (New) A method as defined in claim 32, wherein the retransmitting step comprises:

retrieving from memory the data to be retransmitted;

multiplexing the received data with currently collected data, for broadcast from the satellite on a substantially continuous basis; and

timing the retransmission of the retrieved data to ensure reception by at least one of the receptor terminals, based on the coverage map.

34. (New) A method as defined in claim 32, and further comprising:

retransmitting stored data on receipt of a command from the processing and control center, wherein data received at the processing and control center with detected errors can be retransmitted from the satellite.

35. (New) A method as defined in claim 31, and further comprising:

maintaining in the processing and control center a global coverage map defining the coverage provided by the receptor terminals;

maintaining a copy of the coverage map on the satellite, wherein the maintaining steps include making automatically adjustments to accommodate both newly added and inoperative receptor terminals; and

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anticipating, on the satellite, coverage gaps indicated by the coverage map and retransmitting data that would otherwise be lost if transmitted in a coverage gap.

36. (New) A method as defined in claim 31, wherein the processing step comprises:

checking for data errors in data received from each receptor;

when one or more errors are detected in data received from a receptor,

requesting and receiving retransmission of data from the receptor; and

attempting to correct the one or more detected data errors using the retransmitted data.

37. (New) A method as defined in claim 36, and further comprising:

if the one or more detected errors cannot be corrected using the retransmitted data, requesting and receiving retransmission of data from a receptor providing overlapping coverage of the data containing errors; and

attempting to correct the one or more detected errors using data retransmitted by the receptor providing overlapping coverage.

38. (New) A method as defined in claim 37, and further comprising:

if the one or more detected errors cannot be corrected using data retransmitted by the receptor providing overlapping coverage, requesting the satellite to mark the data as unread and to retransmit the data at its next opportunity;

retransmitting the data from the satellite; and

forwarding the data retransmitted from the satellite, for correction of the one or more errors at the processing and control center.

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